

WHAT IS CLAIMED IS:

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AI 1. An apparatus for synthesizing speech sounds to express a short message received in a wireless communications system in a handset coupled to a hands free kit, comprising:

5 handset circuitry for transferring an alarm signal to said hands free kit to generate an alarm to inform a user of the receipt of said short message, and for transferring said short message to said hands free kit when receiving a short message calling signal from said hands free kit; and

10 hands free kit circuitry for synthesizing said speech sounds according to said short message received from said handset.

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AI 2. The apparatus as defined in Claim 1, wherein said hands free kit circuitry comprises:

a sound element code storage for storing sound element codes representing respective alphabet letters;

15 a dictionary storage for storing a dictionary;

a sentence analyzer for analyzing said short message into phonetic symbols and sound elements in reference to said dictionary so as to generate the grammatical information data of said phonetic symbols and the phonetic information data of said sound elements;

20 a control information generator for generating control information according to said grammatical information data;

25 a speech synthesizer for synthesizing sound data by reading sound element data from said sound element code storage according to said phonetic information data to convert said sound data into audio signals according to said control information;

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a full-duplex module for transferring said audio signals to a speaker to produce sounds; and

a control unit for controlling said sentence analyzer to transmit said short message calling signal to said handset according to an external speech synthesis command upon receiving said alarm signal from said handset.

3. The apparatus as defined in Claim 2, wherein said speech synthesizer and control information generator consist of a digital signal processor (DSP).

4. The apparatus as defined in Claim 2, wherein said full-duplex module includes an echo canceler for eliminating reflective noises.

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5. In a hands free kit coupled to a handset, said hands free kit comprising a sound data storage for storing sound data to control functions and to dial by voice, and a sound element code storage for storing sound element codes representing respective alphabet letters, a method for synthesizing speech sounds to express a short message, comprising the steps of:

generating an alarm upon receiving an alarm signal from said handset to inform the user of the receipt of a short message and detecting whether speech is input;

detecting whether said sound data storage contains sound data having substantially the same sound characteristics as said input speech;

detecting whether said input speech is a sound synthesis command if said sound storage contains sounds having the same sound characteristics as said speech;

transmitting a short message calling signal to said handset upon detecting said sound synthesis command;

detecting said short message received from said handset;
 analyzing said short message and synthesizing sound data corresponding to
 said short message by reading sound element data from said sound element code
 storage according to the analyzed result; and
 5 converting said synthesized sound data into analog audio signals applied to a
 speaker.

6. The method as defined in Claim 5, wherein said generating an alarm
 step includes the sub-steps of:

detecting whether said short message is received by said handset;
 10 storing said short message in a memory and displaying it on a display of said
 handset; and
 causing said handset to generate said alarm signal transferred to said hands
 free kit.

7. The method as defined in Claim 5, wherein said transmitting step
 15 includes the sub-steps of:

causing said handset to detect whether said short message calling signal is
 received from said hands free kit; and
 transmitting said short message transferred to said hands free kit upon
 detecting said short message calling signal.

20 *Sub A3* 8. An apparatus for synthesizing speech sounds to express a short
 message received in a wireless communications system in a handset coupled to a
 hands free kit, comprising:
 handset circuitry operative to transfer said short message to said hands free

kit; and

hands free kit circuitry adapted to synthesize said speech sounds according to said short message received from said handset.

5 9. The apparatus as defined in Claim 8, wherein said handset circuitry is further operative to transfer an alarm signal to said hands free kit upon the receipt of said short message; and

10 said hands free kit circuitry is further adapted to store a voice command indicating a desire for a user to hear a short message, to generate an alarm upon the receipt of said alarm signal, to receive input speech following said alarm generation and determine whether the input speech contains said voice command, and to synthesize said speech sounds and produce said message as an audible output upon the detection of said voice command.

15 10. The apparatus as defined in Claim 9, wherein said hands free kit circuitry is further adapted to store a plurality of voice dialing mode data, and to determine, after said alarm generation, whether said input speech corresponds to any of said voice dialing mode data and if so to synthesize sounds of the corresponding voice dialing mode data without synthesizing sounds of said short message.